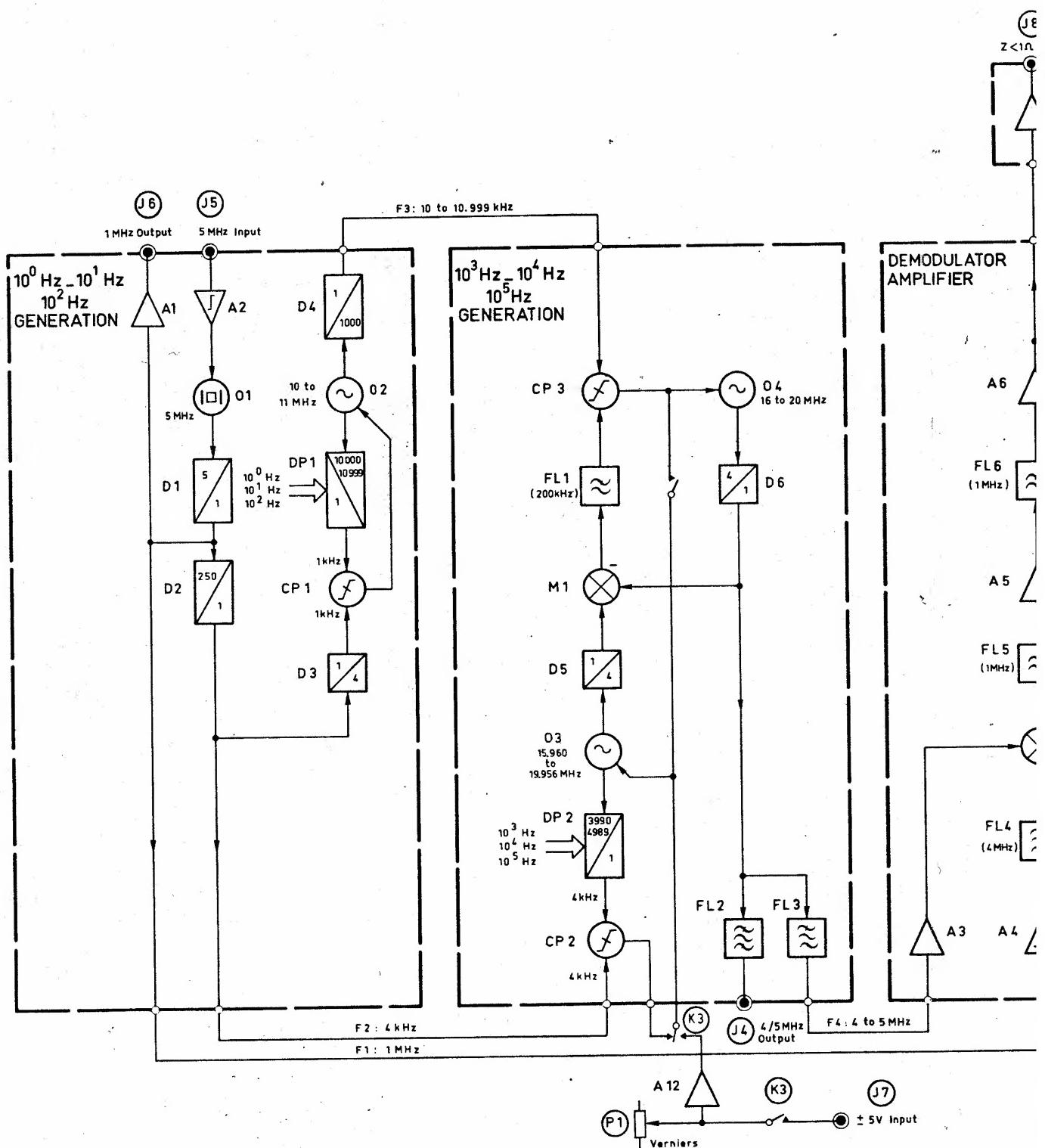
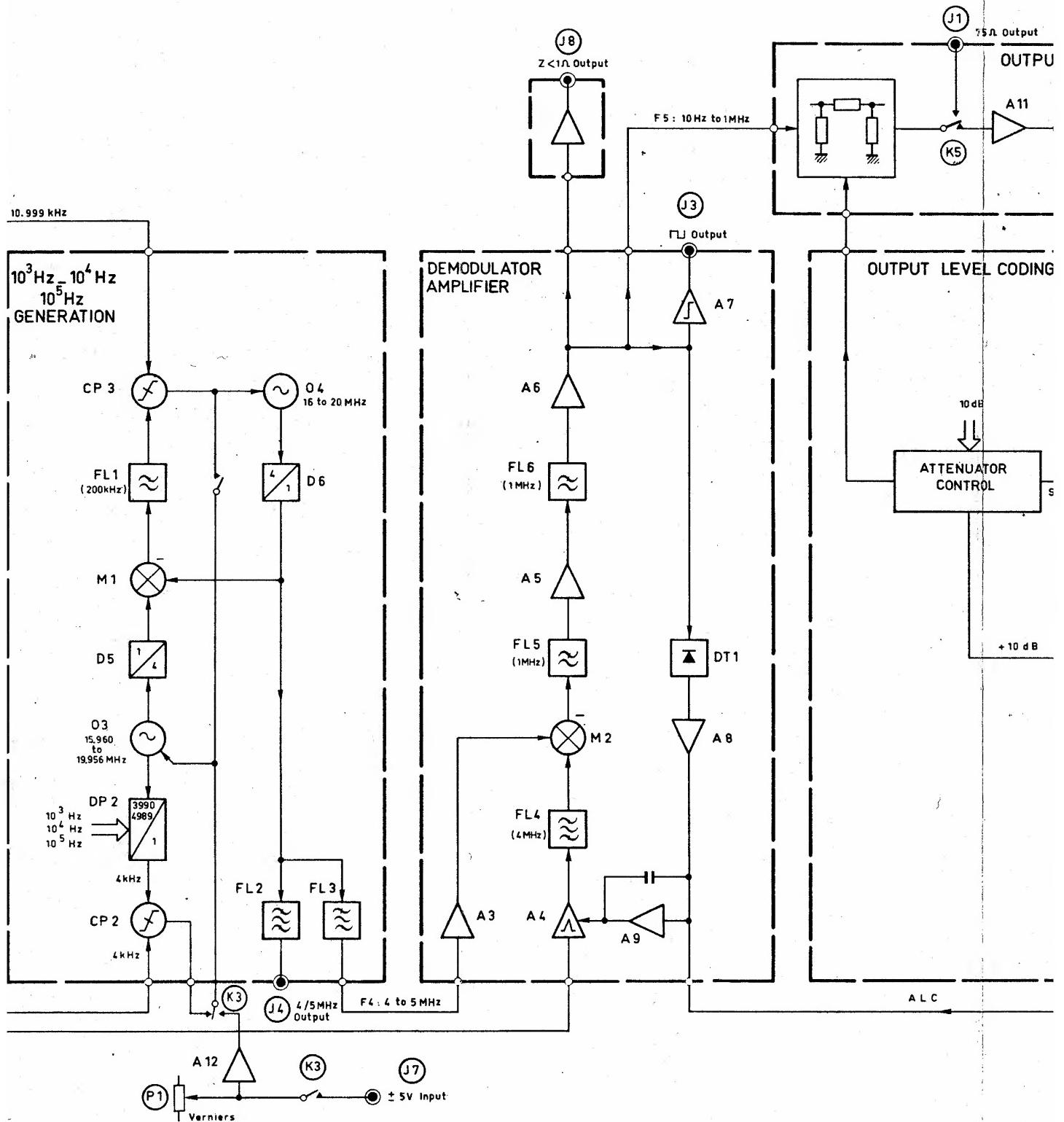


PLATE IV-3
2230A INTERNAL DESCRIPTION





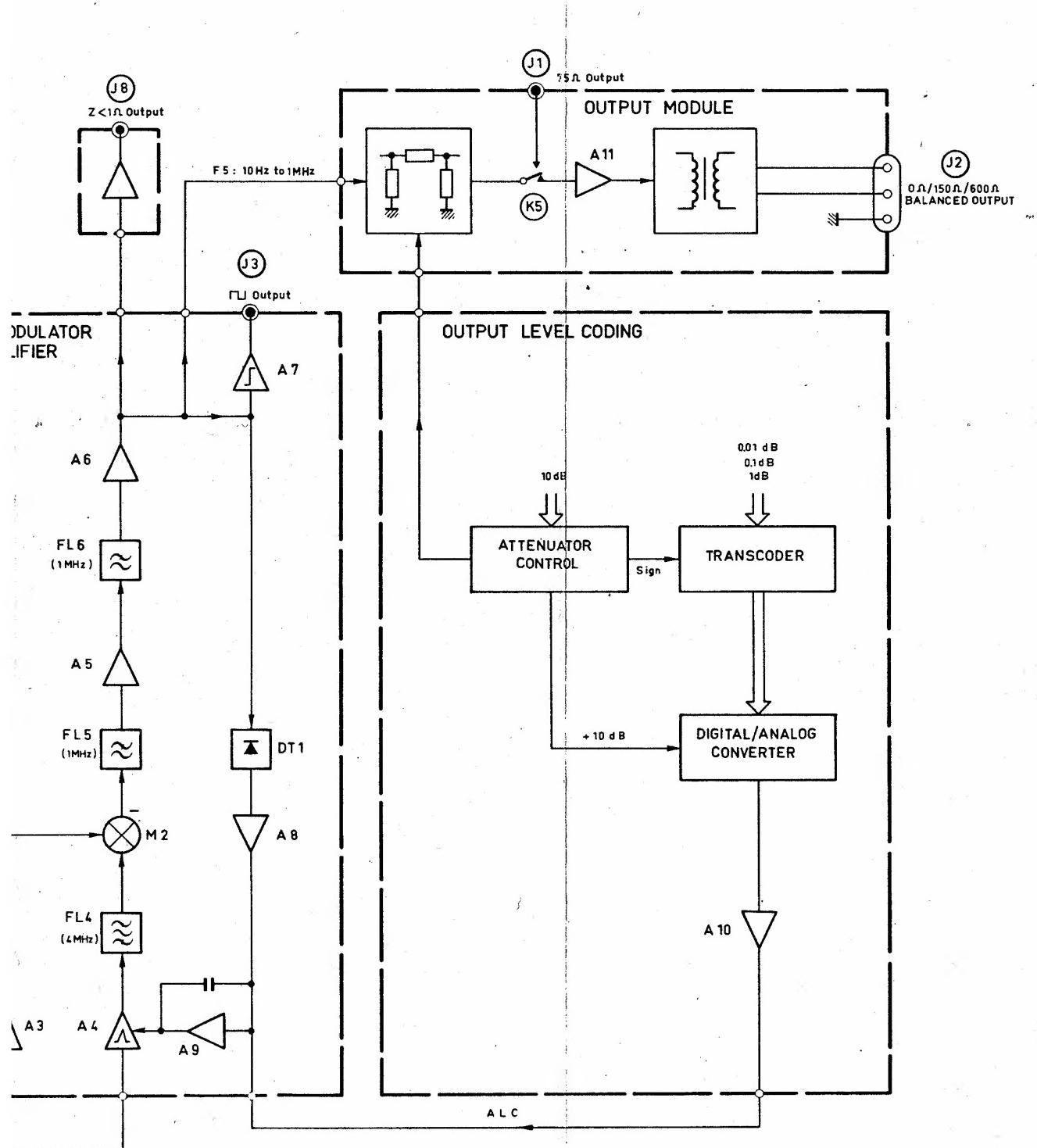


PLATE V-1
2230A - BLOCK DIAGRAM

Improving communications

You have just bought an **ADRET** instrument.

We would like to thank you for trusting our know-how, and we hope your choice will be satisfying.

However, despite how carefully it has been designed and manufactured, you may encounter some troubles.

To help us overcome these failures, and to solve them, we need to know the nature of your applications, the conditions of use and the difficulties encountered.

You can help us by filling the reply card below.

On the other hand, we periodically publish a news **LETTER** dealing with our new products, our techniques, our organisation ...

By returning the coupon below, you will automatically be added to our new **LETTER** mailing list, and benefit from this useful mean of communication with you and between yourselves, users of **ADRET** equipments.

To tell us about any unusual or original applications you may have found particularly useful - we will publish them, with your permission - so that other users can enjoy the same benefits.



Instrument :

Model : Serial N° : Date of purchase :

Main applications and conditions of use :

Strong points :

Weak points - Difficulties encountered :

Would you like to know more about the use of this instrument ?

Would you be interested by a visit from a sales engineer ? Yes No

Would you like information on other Adret instruments ?

Yes Which :

POSTCARD

Company :

Department :

Service :

Address :

.....
City :

Country :

Name/first name :

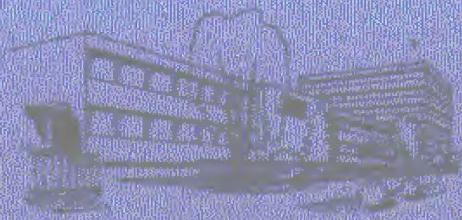
N° tel. :

N° telex :

ADRET Electronique
Service Commercial
BP 33

78192 TRAPPES CEDEX
FRANCE

ADRETELECTRONIQUE®



**SCHEMAS ET NOMENCLATURES
DIAGRAMS AND NOMENCLATURES**

ADRETELECTRONIQUE®

23, Avenue Maurice Thorez - F-91220 Villebon sur Yvette - France - Tél. 01 69 47 70 70
Télécopieur 01 69 47 70 71 - Telex 64 124 ADREL FR - E-mail : adrel@villetaneuse.sfr.fr

T A B L E D E S M A T I E R E S

- * SIGNIFICATION des codes sous/ensembles et Réf. Adret
- * ARTICULATION et SYNOPTIQUE
- * SCHEMAS et NOMENCLATURES
- * LISTE des COMPOSANTS
- * LISTE des SOUS-ENSEMBLES MAINTENANCE
 - Outilage
 - Recharge 100%
 - Recharge 70%
 - Composants maintenance
- * Garantie et Assistance

C O N T E N T

- * MEANING of the part number and Adret codes
- * ARTICULATION and BLOCK DIAGRAM
- * DIAGRAMS and NOMENCLATURES
- * COMPONENTS LIST
- * RECOMMENDED SUB-ASSEMBLIES or PC board
 - Extended boards
 - Set of 100% of repairs
 - Set of 70% of repairs
 - Set of components
- * Warranty and Assistance

SIGNIFICATION des codes sous/ensembles et Ref. Adret

Dans le chapitre **SCHEMAS et NOMENCLATURES**, les deux premiers chiffres

- du code s/ensemble (page 1)
 - et de la Ref. Adret (page 2 et suivantes),
- correspondent à une famille de produits.

Le détail de ces familles est donné dans le tableau ci-après.

E x e m p l e s

Page 1 : Articulation

PAGE	CODE S/ENSEMBLE	DESCRIPTION	*	PLAN DRAWING
- 2	0471004009-*	16 OPTION AMPLI STD	* 16 OPTION AMPLI 650MHZ .	C94.....A98*97
- 5	0271520000-*	13 ATTENUATEUR	* 13 ATTENUATOR ASSEMBLY .	A92.....C98...
- 6	0273210000-*	03 CARTE BF AMPLI STD ..	* 03 BF BOARD AMPLI 650MHZ	A93.....
- 7	0274740000-*	02 CIE AMPLI STD	* 02 CONTROL AMPLI 650MHZ.	C93.....A97

Soit le code s/ensemble **0271520000**.

Le tableau ci-après indique qu'il s'agit d'un sous-ensemble (02).

Page 2 et suivantes : Nomenclature

REFERE INDEXE	REF. ADRET PART NUMBER	DESCRIPTION	DESCRIPTION	FOURNISSEUR/PLAN SUPPLIER/DRAWING
	001 0271520000	13 ATTENUATEUR	* 13 ATTENUATOR ASSEMBLY .	A92.....C98...
	001 0273210000	03 CARTE BF AMPLI STD ..	* 03 BF BOARD AMPLI 650MHZ	A93.....
	001 0274740000	02 CIE AMPLI STD	* 02 CONTROL AMPLI 650MHZ.	C93.....A97
B -001	1400217300	KMV10 EMBASE' MALE' FIXAT. AVANT	* KMV10 00 FRONT ANCHOR MALE ...	SEALECTRO
B -002	1420020700	TRF254 M 20 MALE A SOUDER	* TRF254 M 20 MALE TO SOLDER	TRELEC
C -001	3100620000	FILTRE TRAVERSEE ZFN 5203-00A	* PINCH FILTER ZFN 5203-00A	TIK
C -002	3150042200	0,22MMF 5 50V20% 3439050 E224M	* 0,22MMF 5 50V20% 3439050 E224M AVX	
C -003	3800042200	CHIPS 0,22MMF 20% 25V Z5U-1808	* CHIPS 0,22MMF 20% 25V Z5U-1808 RTC	
C -004	3800042200	8,2PF 2,5"E" 2222 678 09 828	* 8,2PF 2,5"E" 2222 678 09 828 COGECO	

Soit la Ref. Adret **3150042200**.

Le tableau ci-après indique qu'il s'agit d'un condensateur Céramique (31) et rappelle son repère (C).

PRODUITS Repère Famille

**COMPOSANTS
D'INTERCONNEXIONS**

	01	Option Client
	02	Sous-Ensemble
	04	Option Usine
	10	Transformateurs
B	11	Fils et câbles
	12	Circuits imprimés
	13	Accessoires de câblage
	14	Connecteurs
K	15	Commutateurs
K	16	Relais

PRODUITS	Repère Famille
RESISTANCES	17 Protection, signalisation, lampes, fusibles...
	18 Galvanomètre, compteur horaire...
	19 Accessoires pour composants d'interconnexions
	R 20 Thermistances CTN - CTP
	P 21 Potentiomètres
	R 22,23 Résistances usage courant
	R 24 Résistances usage courant
	R 25,26 Résistances à couche métallique
	R 27 Résistances très haute précision
CONDENSATEURS	R 28 Résistances bobinées
	R 29 Résistances miniatures
	C 31 Condensateurs céramiques
	C 32 Condensateurs film plastique
	C 33 Condensateurs mica
	C 35 Condensateurs électrochimiques
	C 36 Condensateurs variables
	C 37 Condensateurs tantalés
	C 38 Condensateurs CHIPS, pastille céramique
SEMI-CONDUCTEURS	39 Accessoires
	D 40 Cellule photo émissive
	SN 41 Circuits intégrés logiques
	SN 42 Circuits intégrés analogiques
	Q 43 Transistors
	Q 44 Transistors à effet de champ
	D 45 Diodes et varicaps
	D 46 Diodes Zener
	48 Circuits hybrides
	49 Accessoires
AUTRES COMPOSANTS ELECTRONIQUES	Y 51 Quartz et accessoires
	F 52 Filtre
	L 53 Inductances surmoulées
	54 Composants pour bobinages
	55 Tubes ferrites
	56 Composants pour bobinages
	57 Accumulateur
PIECES DETACHEES MECANIQUES	59 Transducteur
	61 Vis
	62 Ecrous
	63 Rondelles
	64 Rivets, plots, circlips ...
	65 Boutons, cadrans ...
	67 Entretoises
MECANIQUE	71 à 91

MEANING of the "part number" and "Ref. Adret" codes

In the **DIAGRAMS and NOMENCLATURES** chapter, the two first numbers of
 - the part number (page 1)
 - and the Ref. Adret (page 2 and following),
 correspond to a product-family.

The details of those families are given in the following list.

E x a m p l e sPage 1 : Articulation

PAGE	CODE S/ENSEMBLE PART NUMBER	DESCRIPTION	*	PART DESCRIPTION	PLAN DRAWING
- 2	0471004009-*	16 OPTION AMPLI STD	*	* 16 OPTION AMPLI 650MHZ .	C94.....A98*97
- 5	0271520000-*	13 ATTENUATEUR	*	* 13 ATTENUATOR ASSEMBLY .	A92.....C98...
- 6	0273210000-*	03 CARTE BF AMPLI STD ..	*	* 03 BF BOARD AMPLI 650MHZ	A93.....
- 7	0274740000-*	02 CDE AMPLI STD	*	* 02 CONTROL AMPLI 650MHZ.	C93.....A97

Take the part number **0271520000**.

The following list indicates that it concerns a sub-assembly (02).

Page 2 and following : Nomenclature

REFERE INDEXE	REF. ADRET PART NUMBER	DESCRIPTION	PART DESCRIPTION	FOURNISSEUR/PLAN SUPPLIER/DRAWING
	001 0271520000	13 ATTENUATEUR	* 13 ATTENUATOR ASSEMBLY .	A92.....C98...
	001 0273210000	03 CARTE BF AMPLI STD ..	* 03 BF BOARD AMPLI 650MHZ	A93.....
	001 0274740000	02 CDE AMPLI STD	* 02 CONTROL AMPLI 650MHZ.	C93.....A97
B -001	1400217300	KMV10 EMBASE' MALE' FIXAT. AVANT	* KMV10 00 FRONT ANCHOR MALE ...	SEALECTRO
B -002	1420020700	TRF254 M 20 MALE A SOUDER	* TRF254 M 20 MALE TO SOLDER	TRELEC
B	3100620000	FILTRE TRAVERSEE ZFN 5203-00A	* PINCH FILTER ZFN 5203-00A	TDK
C -001	3150042200	0,22MMF 5 50V20% 3439050 E224M	* 0,22MMF 5 50V20% 3439050 E224M	AVX
C -002	3800042200	CHIPS 0,22MMF 20% 25V Z5U-1808	* CHIPS 0,22MMF 20% 25V Z5U-1808	RTC
C -003	312009B200	8,2FF 2,5"E" 2222 678 09 B28	* 8,2FF 2,5"E" 2222 678 09 B28	COGECA
C -004	3800042200	CHIPS 0,22MMF 20% 25V Z5U-1808	* CHIPS 0,22MMF 20% 25V Z5U-1808	RTC

Take the Ref. Adret **3150042200**.

The following list indicates that it concerns a ceramic capacitor (31) and recalls its reference (C).

PRODUCTS Reference Family

INTERCONNECTION COMPONENTS	01	Customer Option
	02	Sub-Assembly
	04	Factory Option
	10	Transformers
	11	Cables assembly
	12	Printed circuits
	13	Accessories
B	14	Connectors
K	15	Switches
K	16	Relays

PRODUCTS	Reference	Family
RESISTORS	R 17	Protection, signalling, lights, fuses ...
	R 18	Galvanometer, time counter ...
	R 19	Accessories for interconnection components
	R 20	Thermistors CTN - CTP
	R 21	Potentiometers
	R 22,23	Resistors for running use
	R 24	Resistors for running use
	R 25,26	Resistors with metallic sheet
	R 27	Resistors very high accuracy
	R 28	Winded resistors
CAPACITORS	R 29	Miniature resistors
	C 31	Ceramic capacitors
	C 32	Capacitors film plastic
	C 33	Capacitors mica
	C 35	Electrochemical capacitors
	C 36	Variable capacitors
	C 37	Tantalum capacitors
	C 38	CHIPS capacitors, ceramic pastille
	C 39	Accessories
SEMI-CONDUCTORS	D 40	Photo emitting cell
	SN 41	Logic printed circuits
	SN 42	Analog printed circuits
	Q 43	Transistors
	Q 44	Field effect transistors
	D 45	Diodes and varicaps
	D 46	Zener diodes
	48	Hybrid circuits
	49	Accessories
OTHERS ELECTRONIC COMPONENTS	Y 51	Crystals and accessories
	F 52	Filter
	L 53	Surmoulded inductors
	54	Components for winding
	55	Ferrite tubes
	56	Components for winding
	57	Battery
	59	Transducer
MECANIC REPLACEMENT PARTS	61	Screws
	62	Nuts
	63	Washers
	64	Clinches, contacts, circlips ...
	65	Knobs, faces ...
	67	Spacer round
MECHANICAL	71 to 91	

ARTICULATION & OPTIONS 2230A ■ ARTICULATION & OPTIONS 2230A 09.86

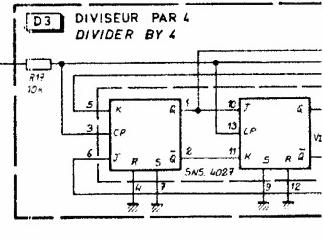
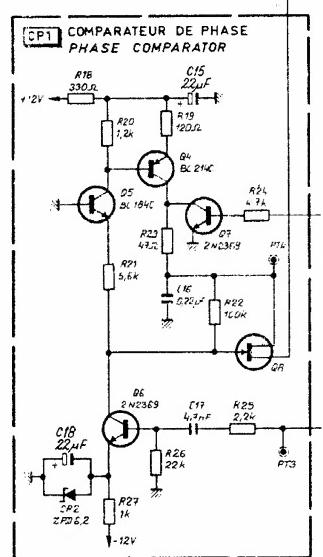
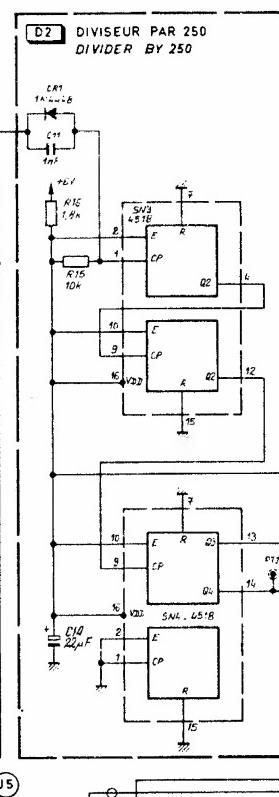
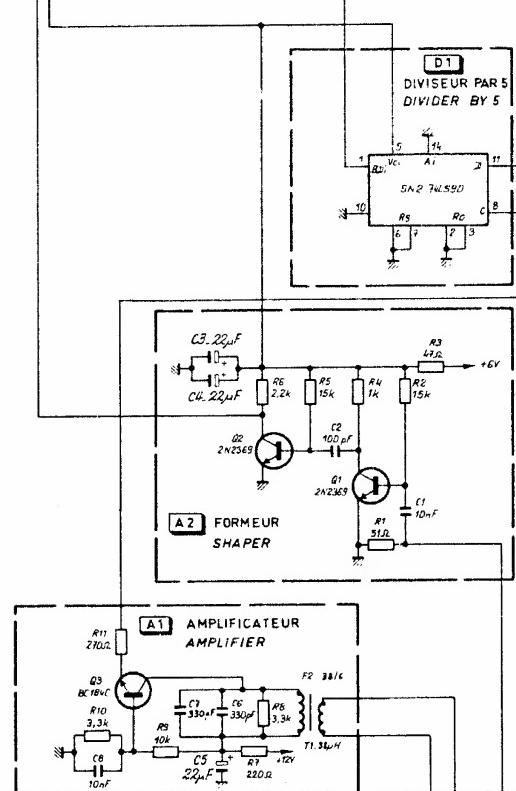
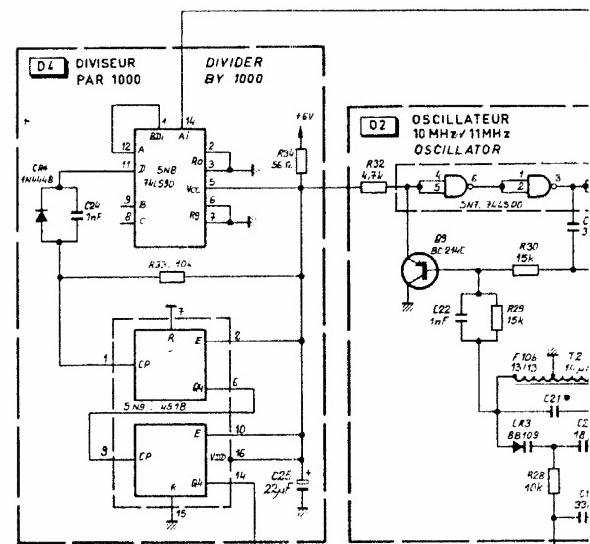
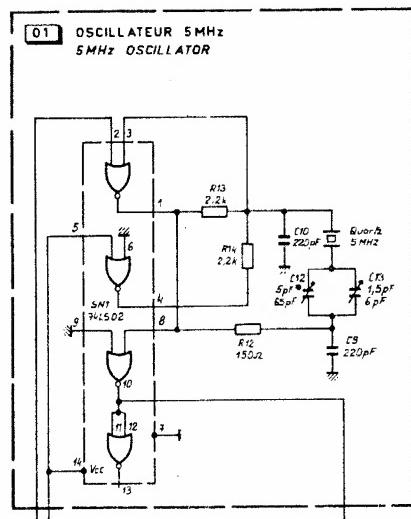
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- 2	0422301002-■	00 AVANT HABILLAGE Z=0 . 2230A ■ 00 AVANT HABILLAGE Z=0 . 2230A		
- 3	0269050000-■	14 1ER GENERATION 2230A ■ 14 FIRST GENERATION 2230A M932502.A976905		
- 5	0269060000-■	17 2EME GENERATION 2230A ■ 17 SECOND GENERATION ... 2230A M932344.E976906		
- 8	0269070000-■	13 CARTE AMPLIFICATEUR . 2230A ■ 13 AMPLIFIER BOARD 2230A G932353.A976907		
- 11	0269080000-■	06 CARTE COMMANDE NIVEAU 2230A ■ 06 LEVEL CONTROL BOARD . 2230A G932349.A976908		
- 13	0269100000-■	11 BAQUET DE SORTIE 2230A ■ 11 OUTPUT MODULE 2230A J920871.C976910		
- 14	0269110000-■	03 ATTENUATEUR 2230A ■ 03 ATTENUATOR 2230A C932524.....		
- 15	0269120000-■	11 AMPLI SYMETRIQUE 2230A ■ 11 SYMMETRICAL AMPLI ... 2230A H932351 1&2/2..		
- 16	0270080300-■	02 CHASSIS EQUIPE Z0 ... 2230A ■ 02 FITTED CHASSIS Z0 ... 2230A J910214.....		
- 17	0269150100-■	07 PORTEUR EQUIPE 2230A ■ 07 FITTED MOTHER BD 2230A B920953.A976915		
- 18	0270110000-■	08 PLAQUE AVANT MONTEE . 2230A ■ 08 ASSEM. FRONT PLATE .. 2230A L920934.....		
- 19	0269090000-■	03 COMMUTATEUR TTL 2230A ■ 03 TTL SWITCH 2230A D932366.....		
- 20	0270030100-■	09 COMMUTATEUR MODE 2230A ■ 09 MODE SWITCH 2230A J932523.B977003		
- 21	0270100000-■	04 BLOC ROUES CODEES ... 2230A ■ 04 SPIN WHEELS BLOCK ... 2230A D920933.....		
- 22	0270940000-■	01 AMPLI Z=0 2230A ■ 01 AMPLI Z=0 2230A E932549.A977094		
- 23	0422308301-■	08 OPTION 2 IEEE 2230A ■ 08 OPTION 2 IEEE 2230A F932565		
- 24	0269970000-■	06 CARTE REGISTRE IEEE . 2230A ■ 06 IEEE REGISTER BOARD . 2230A E932563.B976997		
- 25	0274880000-■	02 CARTE ISOLATION IEEE 2230A ■ 02 IEEE INSULATING BOARD 2230A D932961.C977488		
- 27	0422308302-■	03 OPTION 1 BCD 2230A ■ 03 OPTION 1 BCD 2230A A932555(2)....		
- 28	0269130000-■	01CARTE OPTION BCD 2230A ■ 01 BCD OPTION BOARD 2230A 932547. 976913		

*7620022301 ARTICULATION & OPTIONS 2230A * ARTICULATION & OPTIONS 2230A NOTICES EDITION *

1

REPERE INDEXE	REF. ADRET PART NUMBER	DESCRIPTION	PART DESCRIPTION	FOURNISSEUR/PLAN SUPPLIER/DRAWING	QTE QTY
	001 0422301002 00 AVANT HABILLAGE Z=0 .	2230A	00 AVANT HABILLAGE Z=0 .	2230A	1
	001 0422308301 08 OPTION 2 IEEE	2230A	08 OPTION 2 IEEE	2230A F932565	1
	001 0422308302 03 OPTION 1 BCD	2230A	03 OPTION 1 BCD	2230A A932555(2)....	1
Z0	0122309001 KIT ASSEMBLAGE RACK 3U 1X2230A		KIT ASSEMBLAGE RACK 3U 1X2230A	A910165	1
Z0	0122309002 KIT ASSEMBLAGE RACK 3U 2X2230A		KIT ASSEMBLAGE RACK 3U 2X2230A	A910165	1
Z0	0122309003 00 PROLONGATEUR 27 1 GEN 2230A		00 PROLONGATEUR 27 1 GEN 2230A	*932610.....	1
Z0	0122309004 00 PROLONGATEUR 27 2 GEN 2230A		00 PROLONGATEUR 27 2 GEN 2230A	*932611.....	1
Z0	0122309005 00 PROLONG. OPT.IEEE+BCD 2230A		00 PROLONG. OPT.IEEE+BCD 2230A	A93.....	1
Z0	0122309006 00 PROLONG. CDE NIVEAU 2230A		00 PROLONG. CDE NIVEAU 2230A	A93.....	1
Z0	0122309007 00 PROLONGATEUR AMPLI .. 2230A		00 PROLONGATEUR AMPLI .. 2230A	A93.....	1
	0422308304 01 OPTION 20/21MHZ	2230A	01 OPTION 20/21MHZ	2230A A92 1&2/2	1

09.86	*0422301002	00 AVANT HABILLAGE Z=0 . 2230A	* 00 AVANT HABILLAGE Z=0 . 2230A	PAGE 2
REPERE INDEXE	REF. ADRET PART NUMBER	DESCRIPTION	PART DESCRIPTION	FOURNISSEUR/PLAN SUPPLIER/DRAWING
001	0269050000	14 1ER GENERATION	2230A ■ 14 FIRST GENERATION ...	2230A M932502.A976905
001	0269060000	17 2EME GENERATION	2230A ■ 17 SECOND GENERATION ...	2230A M932344.E976906
001	0269070000	13 CARTE AMPLIFICATEUR	2230A ■ 13 AMPLIFIER BOARD	2230A G932353.A976907
001	0269080000	06 CARTE COMMANDE NIVEAU	2230A ■ 06 LEVEL CONTROL BOARD	2230A G932349.A976908
001	0269100000	11 BAQUET DE SORTIE	2230A ■ 11 OUTPUT MODULE	2230A J920871.C976910
001	0270080300	02 CHASSIS EQUIPE Z0	2230A ■ 02 FITTED CHASSIS Z0	2230A J910214.....
Z0	0422301300	02 LOT HABILLAGE	FANTOME ■ 02 LOT HABILLAGE	FANTOME



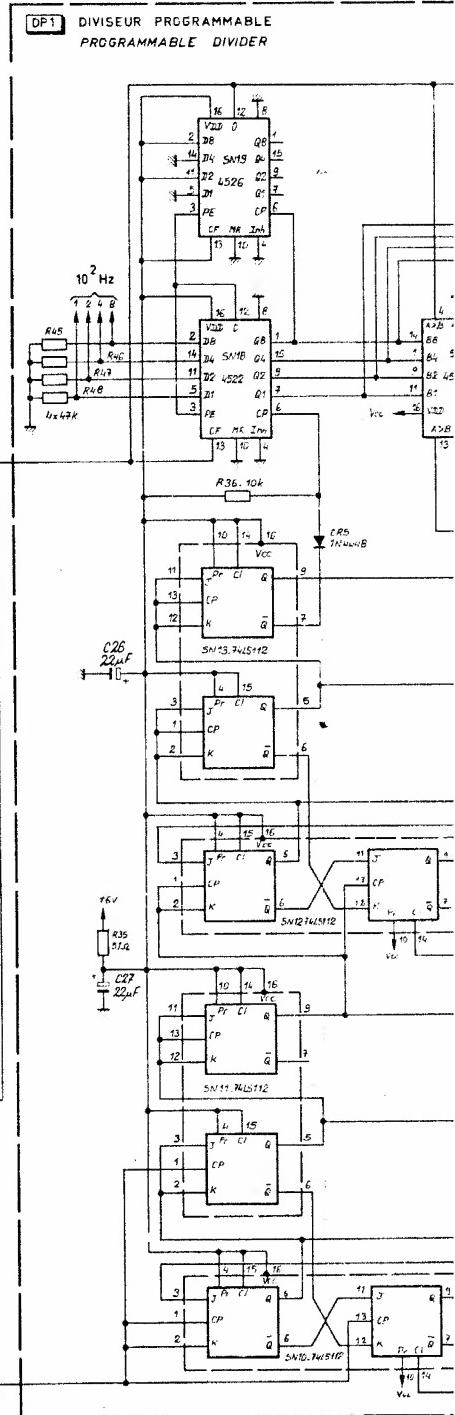
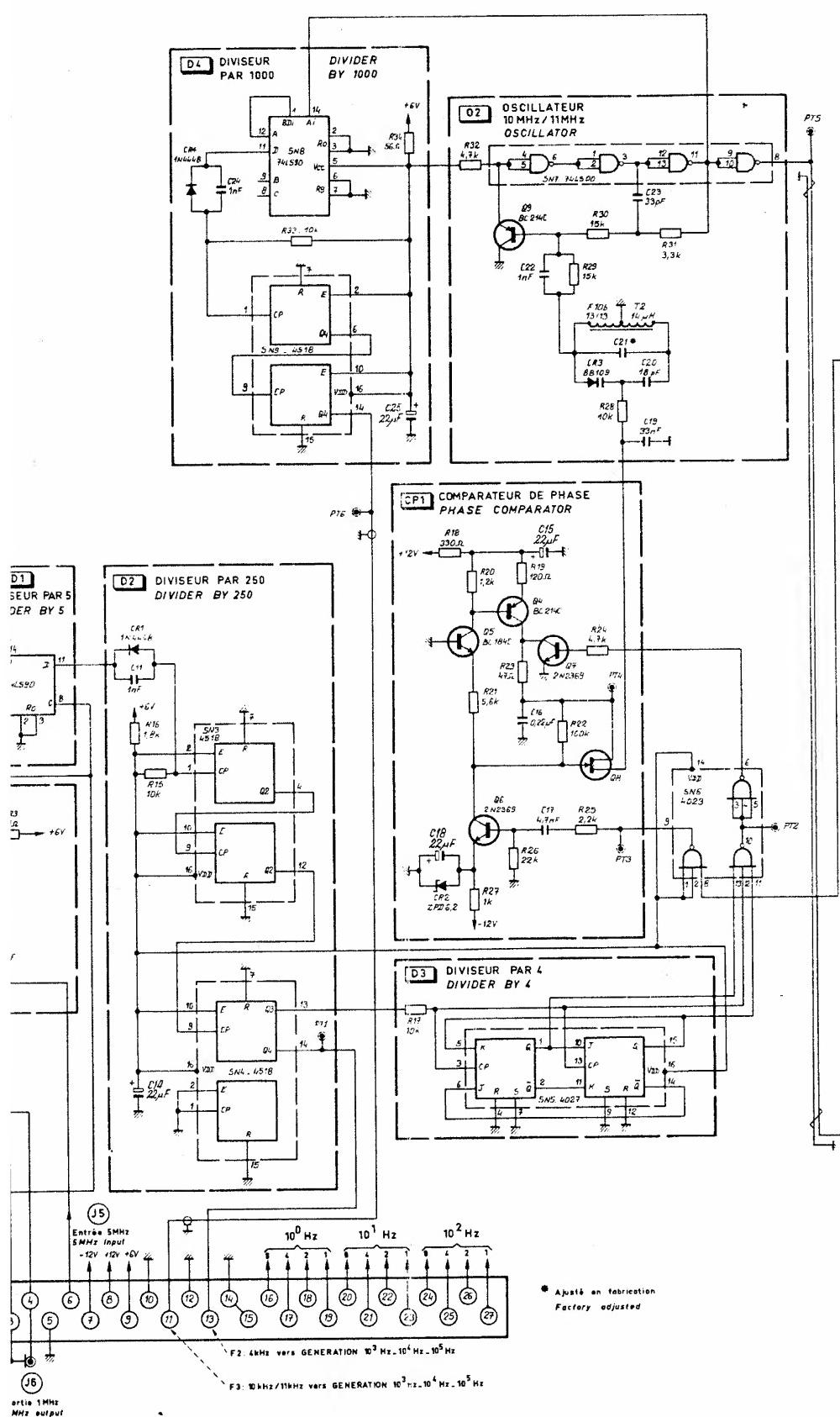
* Ajusté en fabrication
Factory adjusted

F1: 1MHz
vers DEMODULATEUR AMPLIFICATEUR
to DEMODULATOR AMPLIFIER

Sortie 1MHz
1MHz output

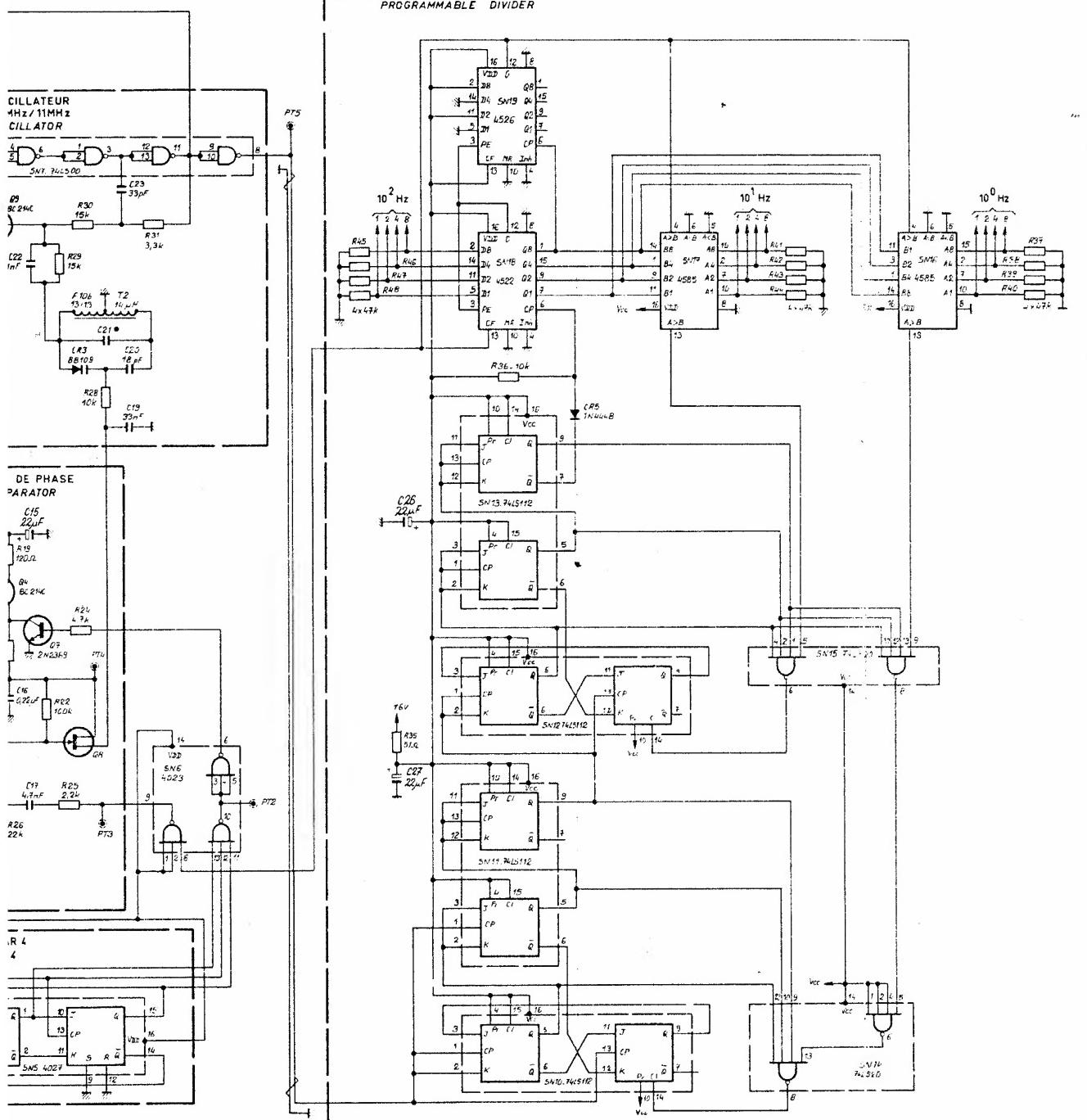
Concentration = 0.0001 MOL/LITER = 10^{-4} MOL/LITER = 10^5 MOLE/LITER

E3 10 kHz/11 kHz VACUUM GENERATION 10^3 Hz - 10^4 Hz - 10^5 Hz



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ni reproduit sans autorisation

ETUDE	DESSINÉ	VER
ACORT	Hv	



* Ajusté en fabrication
Factory adjusted

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ETUDE DESSINE VERIFIÉ	2230 A	PAGE : 1 / 1
ACORT H.V.	GENERATION 10^0 Hz - 10^1 Hz - 10^2 Hz	976905A

